

What is claimed is

1. A mounting device, comprising:

a first housing with a first mounting face, including at least one locking tab

displaced from the first mounting face; and

a second housing with a second mounting face, including at least one tension

5 spring displaced from the second mounting face, wherein the tension spring comprises a plurality of cantilever spring fingers;

wherein upon a movement of the at least one locking tab into contact with the tension spring, the at least one tension spring is positioned between the first housing and the at least one locking tab, and the at least one tension spring is deflected toward the first
10 mounting face to provide deflection and friction forces against the at least one locking tab.

2. The device of claim 1, wherein the movement of the at least one locking tab into contact with the tension spring first causes a first of the plurality of spring fingers to make contact with the locking tab to provide the forces, and next causes a second of the plurality of spring fingers to make contact with the locking tab to provide a step increase in the deflection and friction forces.

3. The device of claim 2, wherein the at least one radio locking tab comprises:

a ramp portion, which begins at a position a distance from the first mounting face and extends to a position nearer to the first mounting face; and

a main portion, which begins at the nearer position of the ramp portion and
5 extends in a direction substantially parallel to the first mounting face to an end;
wherein the spring fingers first make contact with the ramp portion and then make
contact with the main portion.

4. The device of claim 3, wherein the at least one locking tab further comprises a
stop portion, which extends from the end of the main portion toward the first mounting
face at a direction substantially perpendicular to the first mounting face.

5. The device of claim 2, wherein the movement of the at least one locking tab into
contact with the tension spring is a rotation of the first housing.

6. The device of claim 1, wherein the first housing includes a locking ring attached
to the first mounting face, wherein the at least one locking tab is attached to the locking
ring.

7. The device of claim 6, the movement of the at least one locking tab is a rotation of
the locking ring, which first causes a first of the plurality of spring fingers to make
contact with the locking tab to provide the forces, and next causes a second of the
plurality of spring fingers to make contact with the locking tab to provide a step increase
in the deflection and friction forces.

8. The device of claim 7, wherein the at least one locking tab comprises:

a ramp portion, which begins at a position a distance from the first mounting face and extends to a position nearer to the first mounting face; and

a main portion, which begins at the nearer position of the ramp portion and extends in a direction substantially parallel to the first mounting face to an end;

wherein the spring fingers first make contact with the ramp portion and then make contact with the main portion.

9. The device of claim 8, wherein the at least one radio locking tab further comprises a stop portion, which extends from the end of the main portion toward the first mounting face at a direction substantially perpendicular to the first mounting face.

10. The device of claim 7, wherein the at least one locking tab is a plurality of radio locking tabs, and the at least one tension spring is a plurality of tension springs.

11. The device of claim 7, wherein the locking ring is fixed to the first housing.

12. The device of claim 7, wherein the locking ring is rotatably attached to the first housing.

13. The device of claim 12, further comprising a plurality of ring tabs attached to the first mounting face and displaced from the first mounting face that extend radially out away from a center of the first mounting face,

wherein the locking ring has a channel shape with an opening that faces radially
5 toward the center of the first mounting face, and is rotatably attached to the first housing
by the plurality of ring tabs, which extend into the opening.

14. A mounting device comprising:

a radio housing with a radio mounting face including
a radio nose, and
at least one radio locking tab displaced from the radio mounting face; and
5 an antenna housing with an antenna mounting face, including:
an antenna feed input, and
at least one tension spring displaced from the mounting face of the antenna
housing, wherein the tension spring comprises a plurality of cantilever fingers;
wherein the radio nose engages the antenna feed input, and
10 wherein upon a movement of the at least one radio locking tab into contact with
the tension spring, the at least one tension spring is positioned between the radio housing
and the at least one radio locking tab and is deflected toward the radio mounting face to
provide deflection and friction forces against the at least one radio locking tab.

15. The device of claim 14, wherein the movement of the at least one radio locking
tab into contact with the tension spring first causes a first of the plurality of spring fingers
to make contact with the radio locking tab to provide the deflection and friction forces,
and next causes a second of the plurality of spring fingers to make contact with the radio
locking tab to provide a step increase in the deflection and friction forces.

16. The device of claim 15, wherein the at least one radio locking tab comprises:
a ramp portion, which begins at a position a distance from the radio mounting face and extends to a position nearer to the radio mounting face; and
a main portion, which begins at the nearer position of the ramp portion and
5 extends in a direction substantially parallel to the radio mounting face to an end;
wherein the spring fingers first make contact with the ramp portion and then make contact with the main portion.

17. The device of claim 16, wherein the at least one radio locking tab further comprises a stop portion, which extends from the end of the main portion toward the radio mounting face at a direction substantially perpendicular to the radio mounting face.

18. The mounting device of claim 17, wherein the movement of the at least one radio locking tab into contact with the tension spring is a rotation of the radio housing.

19. The device of claim 14, wherein the radio housing includes a locking ring attached to the radio mounting face, wherein the at least one locking tab is attached to the locking ring.

20. The device of claim 19, the movement of the at least one locking tab is a rotation of the locking ring which first causes a first of the plurality of spring fingers to make contact with the locking tab to provide the deflection and friction forces, and next causes

a second of the plurality of spring fingers to make contact with the locking tab to provide a step increase in the deflection and friction forces.

21. The device of claim 20, wherein the at least one radio locking tab comprises:
a ramp portion, which begins at a position a distance from the radio mounting face and extends to a position nearer to the radio mounting face; and
a main portion, which begins at the nearer position of the ramp portion and extends in a direction substantially parallel to the radio mounting face to an end;
wherein the spring fingers first make contact with the ramp portion and then make contact with the main portion.
22. The device of claim 21, wherein the at least one radio locking tab further comprises a stop portion, which extends from the end of the main portion toward the radio mounting face at a direction substantially perpendicular to the radio mounting face.
23. The device of claim 20, wherein the at least one radio locking tab is a plurality of radio locking tabs, and the at least one tension spring is a plurality of tension springs.
24. The device of claim 20, wherein the locking ring is fixed to the radio housing.
25. The device of claim 20, wherein the locking ring is rotatably attached to the radio housing.

26. The device of claim 25, further comprising a plurality of ring tabs attached to the radio mounting face and displaced from the radio mounting face that extend radially away from a center of the radio mounting face,

wherein the locking ring has a channel shape with an opening that faces radially toward the center of the radio mounting face, and is rotatably attached to the radio housing by the plurality of ring tabs, which extend into the opening of the channel.

27. The device of claim 26, wherein the radio mounting face has a center around which the locking ring rotates and includes a first pinhole located at a first distance from the radio mounting face center and a second pinhole located at a second distance from the radio mounting face center,

wherein the antenna mounting face has a center around which the locking ring rotates and includes a first pinhole located at the first distance from the antenna mounting face center and a second pinhole located at the second distance from the antenna mounting face center, and

wherein the placement of a pin in the first holes positions the antenna for a first polarization direction and placement of the pin in the second holes positions the antenna for a second polarization direction.

28. The device of claim 27, wherein the radio mounting face has a circumference and the antenna mounting face has a circumference;

the first radio pinhole is located at a position that is 90 degrees, with respect to the circumference of the radio mounting face, from the position where the second radio

5 pinhole is located; and the first antenna pinhole and the second antenna pinhole are located at the same circumferential position with respect to the circumference of the antenna mounting face.

29. A mounting device comprising:
a radio housing with a radio mounting face including:
a radio nose, and
a locking ring that is rotatably attached to the radio mounting face; and
5 an antenna housing with an antenna mounting face, including an antenna feed input,
wherein the radio nose is aligned with the antenna feed input, and the locking ring is secured to the antenna mounting face.

30. The mounting device of claim 29, further comprising a plurality of ring tabs attached to the radio mounting face that are displaced from the radio mounting face;
wherein the radio mounting face has a center,
wherein the locking ring is channel-shaped and is positioned adjacent to the radio
5 mounting face, and the channel shaped locking ring has an opening that faces radially toward the center of the first mounting face, and
wherein the ring tabs extend radially away from the center of the radio mounting face and into the opening to hold the locking ring next to the radio mounting face.

31. The device of claim 29, wherein the radio mounting face has a center around which the locking ring rotates and includes a first pinhole located at a first distance from

the radio mounting face center and a second pinhole located at a second distance from the radio mounting face center, and

5 the antenna mounting face has a center around which the locking ring rotates and includes a first pinhole located at the first distance from the antenna mounting face center and a second pinhole located at the second distance from the antenna mounting face center,

wherein the placement of a pin in the first holes positions the antenna for a first
10 polarization direction and placement of the pin in the second holes positions the antenna for a second polarization direction.

32. The device of claim 31, wherein the radio mounting face has a circumference and the antenna mounting face has a circumference;

the first radio pinhole is located at a position that is 90 degrees, with respect to the circumference of the radio mounting face, from the position where the second radio
5 pinhole is located; and the first antenna pinhole and the second antenna pinhole are located at the same circumferential position with respect to the circumference of the antenna mounting face.

33. The device of claim 30, wherein the radio mounting face has a center around which the locking ring rotates and includes a first pinhole located at a first distance from the radio mounting face center and a second pinhole located at a second distance from the radio mounting face center, and

5 the antenna mounting face has a center around which the locking ring rotates and includes a first pinhole located at the first distance from the antenna mounting face center and a second pinhole located at the second distance from the antenna mounting face center,

 wherein the placement of a pin in the first holes positions the antenna for a first
10 polarization direction and placement of the pin in the second holes positions the antenna for a second polarization direction.

34. The device of claim 33, wherein the radio mounting face has a circumference and the antenna mounting face has a circumference;

 the first radio pinhole is located at a position that is 90 degrees, with respect to the circumference of the radio mounting face, from the position where the second radio
5 pinhole is located; and the first antenna pinhole and the second antenna pinhole are located at the same circumferential position with respect to the circumference of the antenna mounting face.